# Prospectus for session 1891-92 / Queen Margaret College, School of Medicine for Women.

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# Queen Margaret College.

# SCHOOL OF MEDICINE FOR WOMEN.

PROSPECTUS FOR SESSION 1891-92.

GLASGOW:

JAMES MACLEHOSE & SONS, 61 ST. VINCENT STREET publishers and Sooksellers to the University.

1891.

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1891-92.

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publishers and Booksellers to the University.

1891.

The Calendar of Queen Margaret College contains details of the Classes, subjects of study, etc., in the Arts and Medical Faculties of the College; excerpts from the Articles of Association; Regulations of the University of Glasgow for the Higher Examinations for Women; and an Abstract of the Income and Expenditure of the College.

The Calendar is published by James MacLehose & Sons, 61 St. Vincent Street, Glasgow, price 1s., by post 1s. 2d.

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# Queen Margaret College.

## President.

H.R.H. PRINCESS LOUISE, MARCHIONESS OF LORNE.

Dice-President.

MRS. CAMPBELL of Tullichewan.

Executibe Council.

ELECTED BY THE COLLEGE.

Professor Bradley, The University.

Mrs. EDWARD CAIRD, The University.

Mrs. ARCHD. COATS, Woodside, Paisley.

Mrs. Campbell Douglas, 266 St. Vincent Street.

Miss Galloway, Queen Margaret College, Kelvinside.

JAMES GRAHAME, 93 Hope Street.

Miss Kinnear, 10 Royal Terrace.

Mrs. LINDSAY, 37 Westbourne Gardens.

DAVID MURRAY, LL.D., Moore Park, Cardross.

Mrs. PARKER SMITH, Jordanhill.

JOHN A. SPENS, 169 West George Street.

Professor Stewart, D.D., 18 Annfield Terrace, W., Partickhill.

Professor Veitch, LL.D., The University.

Mrs. E. L. Young, 38 Sardinia Terrace.

ELECTED BY THE EXECUTIVE COUNCIL OF THE COLLEGE.
FREDERICK LAING, 34 Sardinia Terrace.
WILLIAM SMART, M.A., Nunholm, Dowanhill.

APPOINTED BY THE SENATE OF THE UNIVERSITY OF GLASGOW.

Professor E. CAIRD, LL.D., The University.

Professor Young, M.D., 38 Sardinia Terrace.

APPOINTED BY THE SCHOOL BOARD OF GLASGOW.

JOHN MORISON, 11 Burnbank Gardens.

APPOINTED BY THE MERCHANTS' HOUSE OF GLASGOW.
ROBERT KING, 115 Wellington Street.

## Monorary Treasurers.

CHAS. GAIRDNER, Union Bank of Scotland.

Mrs. Campbell Douglas, 266 St. Vincent Street. (Acting.)

# Monorary Secretaries.

James Grahame, of Auldhouse, 93 Hope Street.

Miss Galloway, Queen Margaret College, Kelvinside. (Acting.)

Bonorary Secretary for the Correspondence Classes.

Miss Duncan, 65 Hamilton Drive.

Law-Agents.

MACLAY, MURRAY, & SPENS, 169 West George Street.

Bankers.

UNION BANK OF SCOTLAND.

Auditor.

ROBERT BLYTH, C.A., 115 St. Vincent Street.

# School of Medicine.

## LECTURERS AND TEACHERS.

Anatomy and Practical Thos. H. Bryce, M.A., M.B., C.M., Fellow (by Examination) of the Faculty of Physicians and Surgeons, Glasgow.
Chemistry and Practical G. G. Henderson, M.A., D.Sc.
Materia Medica and C. O. HAWTHORNE, M.B., C.M., Fellow (by Examination) of the Faculty of Physicians and Surgeons, Glasgow.
Physiology and Practical J. M'GREGOR-ROBERTSON, M.A., M.B., Physiology, \ C.M.
Medicine, { J. Wallace Anderson, M.D., Fellow of the Faculty of Physicians and Surgeons, Glasgow.
Surgery, \{\begin{aligned} \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \
Obstetrics and Gynacology, Murdoch Cameron, M.D., Fellow of the Faculty of Physicians and Surgeons, Glasgow.
Medical Jurisprudence, - Donald Munro, M.D.
Pathology, - (John Lindsay Steven, M.D., Fellow (by Examination) of the Faculty of Physicians and Surgeons, Glasgow.
Zoology, Professor Young, M.D.
Botany, B. G. CORMACK, M.A., B.Sc.

Dean of the School-Professor Young, M.D., University of Glasgow.

#### HOSPITALS.

ROYAL INFIRMARY, GLASGOW MATERNITY HOSPITAL, and SICK CHILDREN'S HOSPITAL.

#### SCHOOL SESSIONS.

The Winter Session will begin on Tuesday, 21st October, 1891, and will close on Friday, 25th March, 1892.

The Summer Session will be opened on 25th April, and will close early in July, 1892.

Attendance will be given in the Secretary's office daily (except Saturdays) from 11 till 4, on and after 15th October, for the enrolment of Students. Notice of intended enrolments can be sent to the Secretary, in writing, at any time previous to 15th October. After 1st November, the Secretary may be seen in the office daily, during the Winter Session, from 10.30 till 5.30, except on Saturdays, when the office closes at 1 p.m.

During the Summer Session the office hours are from 11 a.m. till 5 p.m., except on Saturdays, when the office will be closed.

Before enrolment each student is required to pay, for the Winter Session, a matriculation fee of 5s., which entitles her to the use of the Consulting Library and Reading Room during the session.

For the Summer Session the matriculation fee is 2s. 6d.

All the Class Fees must be paid in advance—the fees for the Winter Session between 15th October and 15th November, and for the Summer Session between 25th April and 18th May.

For the Curriculum of Study which must be followed by Students who wish to take the Triple Qualification of the Scottish Colleges, see page 28. Each Student entering on this course of study must have previously passed the Preliminary Examination, and be registered in the books of the General Medical Council as a Medical Student (see page 35).

#### CLASSES IN THE SCHOOL OF MEDICINE.

The Curriculum embraces the Classes of Anatomy, Chemistry, Practical Chemistry, Materia Medica, Practical Pharmacy, Institutes of Medicine (or Physiology and Histology), Surgery, Clinical Surgery, Medicine, Clinical Medicine, Midwifery and Gynæcology, Medical Jurisprudence, and Pathology, on all of which attendance is required for the Licence of the Corporations; and Natural History and Botany, which must also be attended by candidates for a University Degree. For Physics, see p. 40.

MEDICAL SCHOOL.—DAILY TIME TABLE FOR 1891-2 (WINTER SESSION).

	Monday.	Tuesday.	Wednesday.	Thursday.	Friday.	Saturday.
ANATOMY, Junior,	2-3	2-3	2—3	2-3	2-3	:
ANATOMY, Senior,	11-12		11-12		11-12	
PRACTICAL ANATOMY,	9-4	9-4	9-4	9-4	9-4	
CHEMISTRY, Lecture,	12-1	12—1	12-1	12-1	12-1	::
PRACTICAL CHEMISTRY,			2-4	::		10-12
Zoology (in Winter),	3-4	3-4		:	3-4	
Physiology,	2—3	2—3	2-3	2-3	2—3	:
MATERIA MEDICA,	12-1	12-1	12-1	12-1	12-1	
SURGERY, Lecture,	4-5	4-5	4-5	4-5	4-5	
*CLINICAL SURGERY,	9-10.30	9-10.30	9-10.30	9-10.30	9-10.30	10-12
MEDICINE, Lecture,	4-5	4-5	4-5	4—5	45	***
*CLINICAL MEDICINE,	9-10.30	9-10.30	9-10.30	9-10.30	9-10.30	
MIDWIFERY AND GYNAECOLOGY,	12—1	12-1	12-1	12-1	12-1	
MEDICAL JURISPRUDENCE,	45		45		4-5	
*PATHOLOGY,	8.30	8.30	8.30	8.30	8.30	

\* Royal Infirmary.

DAILY TIME TABLE FOR 1892 (SUMMER SESSION).

	Monday.	Tuesday.	Wednesday.	Thursday.	Friday.	Saturday.	day.
ANATOMY,	9-4	9—4	9-4	9-4	9-4	:	:
PRACTICAL PHARMACY,	12-1	12-1	12-1	12-1	12-1	:	:
Botany, Lecture,	3-4	3-4	3-4	3-4	3-4	:	:
Botany, Demonstration,	4-5	4-5	4-5	4-5	4-5	:	:
PRACTICAL PHYSIOLOGY,	2-4	2-4	2-4	2-4	2-4	:	:
CLINICAL SURGERY, and CLINI- CAL MEDICINE,	9-10.30	9—10.30	9—10.30	9-10.30	9-10.30	:	1
PRACTICAL PATHOLOGY,	Hour to be	afterwards arranged.	rranged.				

# Syllabus of Lectures.

#### ANATOMY.

Lecturer and Demonstrator—Thomas H. Bryce, M.A., M.B., C.M.

WINTER SESSION.

Two Courses of 100 Lectures each will be given.

I. Lectures for Junior Students.

Five days weekly, 2 to 3 P.M., beginning 21st October.

The structure of the human body will be studied systematically, in the following order:—

- 1. The Bones.
- 2. The Joints and Ligaments.
- 3. The Muscles and the Fasciæ.
- 4. Histology of Elementary Tissues.
- 5. General Sketch of the Vascular and Nervous Systems.

The Course will be illustrated by preparations and dissections brought into the lecture room.

II. Lectures for Senior Students on Regional Anatomy.

Three days weekly, 11 to 12 A.M.

This Course will take the form of a series of Demonstrations on recent dissections. Special attention will be given to the Anatomy—Macroscopic and Microscopic—of the Thoracic and Abdominal Viscera, and lectures will be given on the Brain, Spinal Cord, and Cranial Nerves.

The bearings of Anatomy on Surgery and Medicine will be specially emphasised.

Text-Books. Quain's Anatomy. For practical work, Professor Cleland's Guide to Dissection; Ellis' Demonstrations of Anatomy, or Heath's Practical Anatomy.

#### SUMMER SESSION.

During the Summer Session tutorial classes will be conducted (a) on Osteology for Students entering on the study of Anatomy, and (b) on Regional Anatomy for second year's Students; and Demonstrations on special subjects will be given.

#### PRACTICAL ANATOMY.

The Laboratory will be open from 9 A.M. till 4 P.M.—on Saturdays 9 A.M. till 12 noon—under the personal superintendence of Dr. Bryce.

#### CHEMISTRY.

100 Lectures, with Laboratory Instruction. G. G. Henderson, D.Sc., M.A.

The course of instruction in Chemistry consists of Lectures and Practical Work in the chemical laboratory.

The lectures will be given daily, except Saturdays, from 12 to 1, beginning on Tuesday, 21st October; and the laboratory will be open from 10 to 1 daily, except on Saturdays.

During Session 1891-92 lectures will be given on the general principles of chemistry, inorganic chemistry, and the elements of organic chemistry. The first fifty lectures will deal with general principles and with the chief non-metallic and metallic elements, and their more important compounds. The second fifty lectures will be devoted partly to chemical theory and inorganic chemistry, and partly to a description of the more important groups of organic compounds. The following is an outline of the lecture course:—

#### INORGANIC CHEMISTRY.

Differences between mechanical mixture, solution, and chemical combination. Chemical changes. Differences between elementary and compound substances. Laws of chemical combination. Equivalent weights of the elements. The atomic theory. Quantivalence. Molecules and molecular weights. Avogadro's hypothesis. Chemical nomenclature and notation.

Oxygen. Ozone. Classification of oxides. Oxidation and reduction. Hydrogen. Water. Peroxide of hydrogen.

Nitrogen. The atmosphere. Ammonia. Ammonium salts. Oxides of nitrogen. Nitric acid and nitrates.

Carbon. Carbonic oxide and dioxide. Carbonates. Coal gas. Flame. Davy lamp.

Chlorine. Bromine. Iodine. Fluorine. Their compounds with hydrogen. Chlorates and hypochlorites.

Sulphur. Sulphuretted hydrogen. Oxides of sulphur. Sulphurous and sulphuric acids and their salts.

Phosphorus. Oxides of phosphorus. Phosphoric acid and phosphates. Chlorides of phosphorus. Phosphoretted hydrogen. Arsenic. Oxides of arsenic. Arseniuretted hydrogen. Antimony. Oxides, sulphides, and chlorides of antimony. Antimoniuretted hydrogen.

Silicon. Silica and the silicates. Boron. Boric acid and borates. Potassium. Sodium. Silver. Calcium. Strontium. Barium. Aluminium. Magnesium. Zinc. Cadmium. Lead. Manganese. Iron. Cobalt. Nickel. Chromium. Bismuth. Copper. Mercury. Gold. Tin. Platinum.

The chief compounds of these metals with the more important acid radicles.

#### ORGANIC CHEMISTRY.

Principles of ultimate analysis. Compound Radicles. Homologous series. Classification of carbon compounds. Hydrocarbons.

Starches and Sugars. Fermentation. Wine, Beer, Bread, etc. Alcohol, ether, acetic acid, and their homologues.

Principal vegetable acids.

Glycerines. Oils and Fats. Saponification.

Derivatives of ammonia. Chief natural organic bases.

Cyanogen group. Urea. Uric acid.

Chief constituents of animal and vegetable organisms.

Science Students are strongly recommended to attend the laboratory as well as the lectures. In the laboratory each student has a bench supplied with apparatus and re-agents, and the course of instruction includes practical work illustrative of chemical laws, and exercises in the principles and methods of qualitative and quantitative analysis.

A class of Practical Chemistry for Medical Students will be held on Wednesdays from 2 to 4, and Saturdays from 10 to 12.

#### MATERIA MEDICA AND THERAPEUTICS.

Lecturer — C. O. HAWTHORNE, M.B., C.M. (Dispensary Physician and Clinical Assistant, Glasgow Western Infirmary).

The class will meet five days weekly, 12 to 1, beginning 21st October.

The Winter Course will be mainly occupied by the discussion of the Physiological actions and Therapeutic uses of the various drugs used in the treatment of disease. The employment of heat, cold, electricity, etc., etc., for Therapeutic purposes, will also be considered; and there will be systematic demonstrations of the various articles of the Materia Medica.

#### PRACTICAL PHARMACY.

During the Summer Session lectures will be given on the official Galenical preparations, and students will be practically instructed in the compounding and dispensing of medicines.

Students are recommended to attend the practical class in the summer preceding their attendance upon the Winter Course.

#### PHYSIOLOGY.

Lecturer—J. M'GREGOR-ROBERTSON, M.A., M.B., C.M.

In Winter, instruction in the main facts and principles of human physiology and the methods of physiological research is given in a systematic course of one hundred lectures.

The lectures will be given on Mondays, Tuesdays, Wednesdays, Thursdays, and Fridays from 2 to 3 afternoon, beginning on 21st October.

This Course will include two main divisions :-

I. The Physiology of Nutrition, comprising the functions of nutrition proper, assimilation and absorption, circulation of the blood, respiration, secretion and excretion. As a preliminary to this part, some time will be devoted to the general physiology of the tissues, including their histology and chemistry, instruction in the latter being carried on in the practical class, the students being supplied with apparatus and chemical re-agents. The practical instruction will enable the student to become familiarised with the chief methods of analysing the principal fluids of the body, and with the apparatus and methods of observing and recording physiological phenomena.

II. The Physiology of Innervation, of the Senses, and of Reproduction. In this part the histology and chemistry of nervous tissue and of the central nervous organs and the sense organs will be included.

(Arrangements will be made to enable students who do not desire the full course of instruction necessary for medical students to attend either the lectures devoted to the physiology of nutrition or those devoted to the physiology of innervation and the senses, each of these two parts of the Course consisting of, as nearly as possible, fifty lectures. In such cases attendance on the practical class will be optional.

Written and Oral Examinations are held during the session, attendance at which is not necessary for those taking only part of the Course.)

In the Lectures devoted to the Physiology of Nutrition the practical bearing on health of physiological facts and laws will be subjects for careful consideration.

In the Summer Session practical instruction will be given in the Laboratory, on the same days of the week and at the same hour as in Winter, chiefly on the use of the microscope and the methods of preparing the various tissues and organs of the body for microscopical examinations. Each student will be supplied with a microscope and all the necessary material for carrying on such work, and will have the opportunity of making a complete collection of mounted specimens of the various tissues and organs.

#### SURGERY.

Lecturer—W. Jas. Fleming, M.D. (Surgeon, Royal Infirmary; Examiner in Surgery, Glasgow University).

The class will meet five days weekly; lectures will be given in the College 4 to 5 P.M., and clinical work 9 to 10.30 A.M. in the Royal Infirmary.

Text-Book. Walsham's Practice of Surgery (Churchill).

#### PRACTICE OF MEDICINE.

Lecturer—J. Wallace Anderson, M.D. (Physician, Royal Infirmary).

The class will meet five days weekly; the lectures will be given in the College from 4 to 5 P.M., and clinical instruction from 9 to 10.30 A.M. in the Royal Infirmary.

During the ensuing Winter Session the work of the class will be carried on according to the following plan, viz.:—

The Nature and Cause of Disease. General Diseased Conditions. The commoner Fevers as illustrating General Disease. Diseases of the various Systems beginning with those of the Respiratory System.

Text-Book. Taylor's Practice of Medicine.

#### MIDWIFERY AND GYNÆCOLOGY.

Lecturer—MURDOCH CAMERON, M.D., F.F.P.S.G. (Obstetric Physician to the Glasgow Maternity Hospital).

Midwifery. The Pelvis. Female Organs of Generation, Menstruation and Conception. Development of the Ovum, Embryo and Fœtus. Signs and duration of Pregnancy. Extra-uterine Pregnancy. Abnormal Development. Diseases of Pregnancy. Labour and its Phenomena. Management of Natural Labour. The Mechanism of Labour. Face Presentations. Pelvic Presentations. Transverse and complicated Presentations. Premature Expulsion of the Ovum. Hæmorrhage. Inversion of the Uterus. Rupture of the Uterus. Deformities of the Pelvis. Forceps, etc. Turning. Embryotomy. Cæsarean Section, etc. Induction of Premature Labour. Obstructed Labour. Uterine Inertia. The Puerperal State. Lactation. The Newly-born Child. Phlegmasia Dolens. Puerperal Insanity. Eclampsia. Puerperal Fever, etc.

Diseases of Women. Physical Diagnosis. Malformations. Displacements. Diseases of Uterus and Ovaries. Diseases of Fallopian Tubes, Uterine Ligaments, and adjacent Peritoneum and Cellular Tissue. Diseases of the Vagina and Vulva. Functional and Symptomatic Disorders.

Practical Midwifery. Students can attend cases in connection with the Maternity Hospital.

#### MEDICAL JURISPRUDENCE.

### Lecturer-Donald Munro, M.D.

The lectures on Medical Jurisprudence are intended to elucidate the application of all the branches of Medical Science to Judicial and Legislative purposes, and embrace the discussion of the following subjects in their medicolegal aspects, viz.:—

The Identity of the Person.

Signs of Death.

Questions relating to the time which has elapsed since Death.

Death from Disease.

" Lightning.

., Cold.

, Starvation.

Burning in relation to Judicial Proceedings.

Questions relating to Poisoning.

Death by means which arrest the Respiration—Drowning, Hanging, Strangling, Suffocation.

Injuries from other kinds of External Violence, in the Living, and in the Dead.

Questions relating to the Sexual Functions—Rape, Impotence, Sterility, Doubtful Sex, Signs of Pregnancy, Duration of Pregnancy, Superfectation, Signs of Delivery, Abortion, Infanticide.

Questions relating to the Sanity and Responsibility of the Individual.

Duties of the Medical Practitioner in relation to Judicial Proceedings.

With the view of enabling Senior Students to present themselves for the Final Professional Examination in July, 1892, Dr. Munro will deliver the above course of lectures during the Summer Session of that year, in addition to the course to be delivered during the Winter Session of 1892-3.

Oral and Written Examinations will be held during the course of the Session, and facilities will be afforded in the

Laboratory for Students making themselves practically familiar with the methods adopted for the detection of the more common poisons and the examination of blood and other stains.

Text-Book. Principles of Forensic Medicine, by Guy and Ferrier.

#### PATHOLOGY.

Lecturer—John Lindsay Steven, M.D., (Pathologist and Assistant Physician, Glasgow Royal Infirmary; Extra Physician, Royal Hospital for Sick Children, Glasgow).

The class of Pathology comprises a combined course of Systematic Lectures and of Practical Laboratory Work. The Systematic Lectures are delivered during the Winter Session, and the Practical Class meets in Summer. The student cannot enter for the two Courses separately, but may begin Pathological study with either class. The class meets in the Pathological Department of the Royal Infirmary.

The first part of the course of Systematic Lectures is devoted to the discussion of the General Principles of Pathology, involving a consideration and description of constitutional diseases and of those morbid processes, which, though special as affecting individual organs, are general in the sense that they are fundamentally the same wherever they occur, being modified simply by their environment. Following this plan, the subject matter of the lectures is discussed under the following headings, viz.:—

- 1. Derangements of the Circulation of the Blood, and the resulting Lesions.
- 2. The Pathology of Inflammation.
- 3. The causes and varieties of Infiltrations and Degenerations.
- 4. The general principles of Tumour-formation, with an outline of the classification of Neoplasms.

- The Pathology of Parasitic Diseases, including a general discussion of the influence of Pathogenic Micro-organisms in the production of disease, and of the more common diseases caused by Bacteria.
- Special Pathology of individual Organs and Tissues. This
  part of the course is varied from session to session according
  to the time at the disposal of the Lecturer.

During the Winter Session regular Class Demonstrations are given on specimens obtained in the *post-mortem* room, and the lectures are illustrated by specimens from the Museum and by diagrams.

In the Summer Session instruction in Practical Pathology is given in the *post-mortem* room and Pathological Laboratory of the Royal Infirmary, and is embraced under the following headings:—

- 1. The performance of post-morten Examinations, and the study of the naked eye appearances of diseased parts.
- 2. The selection and preparation of Morbid Tissues for Sectioncutting.
- 3. Section-cutting and Staining of Microscopic Sections.
- 4. The examination and collection of a series of Pathological Sections.

Written and Practical Class Examinations are held during the Winter and Summer Sessions. To Senior Students, who have completed their Pathological course, Dr. Steven will be glad to afford facilities for original histological work in the Laboratory.

Systematic Text-Books. A Manual of Pathology, by Joseph Coats, M.D., 2nd edition; A Manual of Pathological Histology, by Cornil and Ranvier, 2nd edition, translated by A. M. Hart; A Text-Book of Pathology, Systematic and Practical, by D. J. Hamilton, M.B.

PRACTICAL TEXT-BOOK. Practical Pathology, an introduction to the practical study of Morbid Anatomy and Histology, by John Lindsay Steven, M.D.

#### ZOOLOGY.

#### Professor Young, M.D.

The fifty meetings of the Class will be divided between Demonstrations and Lectures.

The meetings will be held at 3 p.m. on Mondays, Tuesdays, and Fridays, beginning 21st October.

Besides a description being given of the plan of structure in each sub-kingdom, certain groups of animals (this session "Insects and Birds") will be more fully illustrated.

Text-Books. Rolleston's Forms of Animal Life, ed. H. Jackson; Claus' Zoology, Sedgwick's Translation; Huxley's Vertebrates and Invertebrates. For practical work, besides Rolleston, may be mentioned the works of Huxley and Martin, of Marshall and Hurst, and of T. Jeffery Parker.

#### BOTANY.

Lecturer—B. G. CORMACK, M.A., B.Sc.

The Lectures on this subject will be delivered in the Summer Session on Mondays, Tuesdays, Wednesdays, Thursdays and Fridays, 3 to 4, Demonstrations being given after each Lecture. The subjects will be as follows:—

#### I. ANGIOSPERMS.

EXTERNAL MORPHOLOGY.

- A. The Vegetative Organs.
  - I. The shoot.
    - (a) The stem; its modifications and their functions.
    - (b) The leaf; its three categories; its various shapes and modifications with corresponding functions.
    - (c) The emergence and the hair.
  - II. The root; the primary root; lateral roots and their arrangements; adventitious roots; root-hairs.
- B. Special modifications of organs to subserve the function of vegetative reproduction; vegetative reproduction; natural, and artificially induced.

- C. The morphology of organs subserving sexual reproduction.
  - I. Inflorescences; bracts.
  - II. The flower; comparison and contrast with the vegetative bud.
  - III. Sporangia; their position and arrangement.
  - IV. Fruits.
- D. Classification of the angiosperms.

#### HISTOLOGY.

The cell; its structure, composition, and chief contents.

The various developments of cells; the tissues thus formed.

The minute structure and development of root and shoot.

The functions of the various tissues: mechanical and physiological.

The minute structure and development of flower, fruit, and seed.

Adaptations to secure fertilisation and seed distribution.

#### Physiology.

The food of plants; organs which absorb it; parasitism. Movements of water and gases in plants.

Conversion by the plant of inorganic matter into organic; the changes undergone in the plant by organic matter.

The external conditions under which these changes are possible.

The uses to which the products are put by man.

Vegetable growth.

Movements of plants.

### II. GYMNOSPERMS AND CRYPTOGAMS.

Corresponding treatment of the external morphology, histology, and life history of the following plants:—Pinus, Selaginella, Aspidium, Polytrichum, Marchantia, Polysiphonia, Fucus, Agaricus, Puccinia, Eurotium, Parmelia, Claviceps, Vaucheria, Phytophthora, Mucor, Spirogyra, Œthalium, Bacterium.

Arrangements for Practical Classes in Botany and Zoology are under consideration.

Arrangements will be made for Classes in Mental Diseases and Ophthalmic Surgery, etc., as required.

For Class of Physics, see Appendix, page 40.

#### HOSPITAL INSTRUCTION.

#### ROYAL INFIRMARY.

This Hospital contains 584 beds for medical and surgical patients, of which 110 are appropriated to the clinical instruction of women only. There is also a largely attended out-patient department, besides special cliniques for ear, throat, eye, etc.

Students of this School have exceptional facilities for clinical study in wards set apart for the instruction of women students. Dr. Wallace Anderson, the Lecturer on Medicine, has fifty beds under his charge, which provide ample material for clinical medical tuition. A number of clinical clerks are selected from among the senior students, who observe and report on special cases. At the daily visit the students are familiarised with all the cases which present themselves, and in addition Dr. Anderson gives two special clinical Lectures every week. Tutorial classes are also conducted by Dr. Scott Macgregor.

On the surgical side, Dr. Fleming has under his care sixty beds, which afford ample opportunities of Dressing to a large number of students. The Dressers assist at all the numerous operations performed in a theatre attached to the wards and reserved for them alone. In this theatre also are given the clinical Lectures. The House-Surgeon conducts classes of bandaging and minor surgery, and arrangements have been made with Miss Church, M.B., C.M., to act during next winter as clinical tutor.

The splendid pathological museum of the Hospital, under the direction of the curator, Dr. Lindsay Steven, is largely drawn upon for illustration, and is open to the students for purposes of study.

#### GLASGOW MATERNITY HOSPITAL.

Cases may be attended in connection with the above Institution, which has over 2000 cases annually.

#### SICK CHILDREN'S HOSPITAL.

Students can attend the Hospital and the Dispensary, 11 West Graham Street, during visits of the physicians and surgeons.

The Lecturer on Pathology, Dr. Lindsay Steven, will be glad to see any of the students at his clinique in the Dispensary on Wednesdays and Saturdays at 11.30 A.M.

#### SCHOOL FEES.

The Courses of Zoology, Botany, and Medical Jurisprudence comprise 50 meetings of the Class. Lectures on the other subjects during the Winter Session extend to 100 meetings of the Class. Courses delivered during the Summer Session, on all subjects, extend to 50 meetings only.

	1	VINTER	SESSIO	N.					
Zoology,-	-	-	-			- :	£3	3	0+
Anatomy, Junior,	-	-	+	-	-	-	3	3	0*
Anatomy, Senior,	-		-	-		-	3	3	0*
Practical Anatomy,	-	-	-	-	-	-	3	3	0
Chemistry, -	-	-	-	- "	-		3	3	0+
Practical Chemistry,	-	-	-	12	-	-	3	3	0
Chemical Laboratory	,	-	-	-	£2 2	0 to	5	5	0
Materia Medica and	Therap	eutics,	-				3	3	0*
Physiology and Histo	logy,	-	-	-	-		3	3	0
Practice of Medicine,		-	- 1	-		-	3	3	0*
Clinical Medicine, School Surgery,	. TT								
Clinical Surgery, J So	ee Hos	pitai.							
Surgery, -	-	- 1101		- 1011	*	-	3	3	0*
Midwifery, -	-	-	-				3	3	0

<sup>\*</sup> Fee for a Second Session, £2 2/; for a Third Session, £1 1/.

<sup>†</sup> Fee for a Second Session, £2 2/.

Medical Jurisprudence,	-	-	-			£3	3	0
Pathology and Practical	Pathology	,	-	-	~	3	3	0
	SUMME	R SES	SSION.					
Anatomy,								
Practical Anatomy,		*		-	-	2	2	0
Practical Pharmacy, -	-	-	-	-	-	3	3	0
Practical Physiology,		-		-	-	2	2	0
Clinical Medicine,								
Clinical Medicine, See H	lospital.							
Operative Surgery, -		-			-	2	2	0
Practical Pathology, -			2		-			
Botany, -				4	-	3	3	0

#### HOSPITAL FEES.

#### ROYAL INFIRMARY.

Every Student paying at the commencement of her first year of Hospital attendance a fee of £10 10s, will be entitled to admission to the Infirmary, and also to attend Courses of Clinical Instruction during the winter and summer of that year.

Every Student who has thus paid £10 10s., and shall at the commencement of her second year of Hospital Attendance pay a further fee of £10 10s., will have the privilege of admission to the Infirmary, and to the several Courses of Clinical Instruction, during her lifetime.

Fee for Hospital Attendance and Clinical Instruction for 6 months only, £6 6s.

Fee for Hospital Attendance and Clinical Instruction for 3 months only, £4 4s.

#### GLASGOW MATERNITY HOSPITAL.

Fee, £1 1s. Rules on application to the Secretary, ARTHUR FORBES, 146 Buchanan Street.

#### SICK CHILDREN'S HOSPITAL AND DISPENSARY.

Fee £1 1s., for twelve months' attendance. Information may be had from the House Surgeon, 45 Scott St., Garnethill.

# FEES FOR THE VARIOUS QUALIFICATIONS TO PRACTICE NOW OPEN TO WOMEN.

Licence in Medicine, Surgery, and Midwifery, Apothe-			
caries' Hall, London,	£10	10	0
Licence of College of Physicians and College of Surgeons,			
Edinburgh, and Faculty of Physicians and Surgeons,			
Glasgow (Triple Qualification),	26	5	0
Diplomas of Conjoint Colleges of Physicians and Surgeons,			
Ireland, in Medicine, Midwifery, and Surgery, -	42	0	0
Fellowship of R.C.S.I.,	26	0	0
M.B. and B.S. Degrees of University of London, -	20	0	0
M.D. and M.S. ,, ,, ,,	10	0	0
M.B. of University of Ireland,	6	0	0
M.D. and M. Ch. of Royal University of Ireland, -	10	0	0

Holders of any of the above are legally qualified to be placed on the Medical Register. Additional qualifications in Sanitary Science are open to women, but are not compulsory for Registration.

# CURRICULA OF STUDY, AND EXPENSES OF A MEDICAL EDUCATION.

The Class and Hospital Fees, including the regular subjects of a Four or Five Years' Course of Study and Clinical work, will amount to about £80.

To this may be added for supplementary subjects, including Diseases of the Eye, Mental Diseases, etc., which may be attended during the last summer session, an additional sum of from £10 to £20; also the fees of the examining bodies, as above.

# The Curricula are as follows :-

# I. CURRICULUM FOR THE TRIPLE QUALIFICATION.

	1. CURRICU.	LUM	FUR	TH	E I	RIP	LE	WUALIF	IUA.	HON.		
FIR	ST YEAR Wind	ter Se	ssion-	_		1	rear	ly Fees.				
	Anatomy, -	-	-	-	£3	3	0					
	Practical Anato	my,	-	-	3	3	0					
	Chemistry, -	-		-	3	3	0					
	Practical Chem	istry,		-	3	3	0	marin 1				
	*Zoology, -	-	-	-	3	3	0	C1E 1E	0			
S	ummer Session—				-			£15 15	0			
~	Anatomy and Pr		al An	a-								
	tomy, -				£2	2	0					
	Practical Phys					-						
	tology),				2	2	0					
	Practical Pharm											
	*Botany, -					3						
	zovazy,				_		_	10 10	0			
~	77		~ .					-	_	£26	5	0
SEC	OND YEAR Wi				00	-						
	Anatomy, -											
	Practical Anato											
	Physiology,											
	Materia Medica											
	Surgery, -											
	(Hospital o	-	al.)		-			£14 14	0			
S	ummer Session—											
	Anatomy and Pr	ractic	al An	a-								
	tomy, -	-	-	-	2	2	0					
	Practical Patho	logy,	+-	-								
	Clinical Surgery	y (see	Hos	pital	).							
	Hospital fee for	year	,	-	10	10	0					
							_	12 12	0			
m	77								_	£27	6	0
TH	RD YEAR.—Win				00	0	0					
	Practice of Med			-	£3							
	Pathology,+				40	3	0					
	Clinical Medicin	ne (se	е Но	spita	ıl).			66 6	0			
								£6 6	0			

<sup>\*</sup> Requisite for Students entering after 1st January, 1892. + Form one Course.

Summer Session—				
Operative Surgery, £2 2	0			
Practical Pathology, \ (see Hos-				
Clinical Medicine, J pital).				
*Hospital Fee, final, for Per-				
petual Ticket, 10 10	0			
	_	£12 12	0	
			£18 18	3 0
FOURTH YEAR Winter Session-				
Midwifery and Diseases of				
Women and Children, - £3 3	0			
Medical Jurisprudence, - 3 3				
Surgery and Clinical Surgery,	0			
or Practice of Medicine and				
Clinical Medicine (see Hospital).				
. ———	_	£6 6	0	
Summer Session—				
Practical Midwifery (see below).				
Vaccination (see Hospital).			0	
Maternity Hospital Fee, -	-	1 1		- 0
			7	7 0
FIFTH YEAR.—Clinical and Practical work	in 1	Hospital.		
(Until 1892, this year's work is not comp	ulso	ry for		
the Triple Qualification; see page	37.)		£79 1	6 0
			-	_

# II. CURRICULUM FOR M.B., C.M., GLASGOW UNIVERSITY.

(It is hoped this Degree may before long be thrown open to the students of Queen Margaret College.) Students who purpose taking this Degree are recommended to begin their studies in summer, and arrange their course as follows:—

<sup>\*</sup>If a Student enters the Hospital for Clinical work before her third year, the Hospital Fee for the first year's attendance there must be paid at the time of entry.

FIRST YEAR Summer Session-									
	£3	3	0						
Dotany,		3							
Osteology (tutorial), -			_	£6	6	0			
w: . 0	1000000			~ 0	-				
Winter Session—	£3	2	0						
Anatomy (Junior),	3								
Practical Anatomy,		3							
Chemistry,		3							
Practical Chemistry,		3							
Zoology,	0	9	U	15	15	0			
				19	10	U	£22	1	0
							122	1	U
SECOND YEAR.—Summer Session—	00		0						
Practical Anatomy,	£3								
Practical Physiology, -	3	3	0	46	6	0			
Winter Session—				20	U	0			
	2	2	0						
Anatomy (Senior),	3	3							
Practical Anatomy, -	3								
Physiology,	-	3							
Surgery, Hospital)			0						
Clinical Surgery (see Hospital).	10	10	0						
Hospital Fee, 1st year,		10	_	18	18	0			
				_			£25	4	0
THIRD YEAR.—Summer Session—									
Practical Pharmacy, -	£3	3	0						
Practical Pathology, -		3							
Practical Lathology,	_			£6	6	0			
Winter Session—									
Practical Anatomy,	3	3	0						
Materia Medica,	3	3	0						
Pathology,	3	3	0						
Hospital Fee, final, for per-									
petual ticket,	10	10	0						
petdar ticket,	_			19	19	0		_	
				_			£26	5	0
FOURTH YEAR Summer Session-									
Operative Surgery,	£2	2	0						
Clinical Medicine (see Hospita	1).								
Canada de la Canad	-			£2	2	0			

Winter Session-								
Medicine,	-	£3	3	0				
Clinical Medicine (see Ho	spital	1).						
Medical Jurisprudence,		3	3	0				
Midwifery,	-	3	3	0				
Practical Midwifery (see nity Hospital).	Mate	r-						
Lectures on Eye Diseases Insanity.	and							
Maternity Hospital Fee,		1	1	0	10 10 0	£12	12	0
						£86	2	0

Students entering after 1st January, 1892, must take a fifth Winter Session, devoted to practical work.

#### III. CURRICULUM FOR DEGREES OF LONDON UNIVERSITY.

Before entering on the study of Medicine a candidate for the London University Degrees must pass the Matriculation Examination of that University.

FIRST YEAR.—Summer Session—
Botany and Botanical Laboratory.

Winter Session-

Zoology.

\*Physics.

Chemistry.

Practical Chemistry.

(Preliminary Scientific Examination in Organic Chemistry, General Biology, and Experimental Physics.)

SECOND YEAR. - Summer Session -

Practical Anatomy.

Practical Physiology.

Winter Session-

Anatomy (Junior).

Chemical Laboratory.

Physiology.

\* See Appendix, page 40.

THIRD YEAR. - Summer Session -

Practical Anatomy.
Practical Pharmacy.

Winter Session-

Materia Medica.

Pathology.

Surgery.

Clinical Surgery.

(First M.B. Examination.)

FOURTH YEAR. - Summer Session -

Practical Pathology. Clinical Surgery.

Winter Session-

Medicine.

Clinical Medicine.

Midwifery and Diseases of Women.

FIFTH YEAR. -Summer Session-

Clinical Medicine.

Operative Surgery.

Fever Hospital.

Winter Session-

Medicine or Surgery, or Midwifery and Diseases of Women.

Practical Midwifery, 20 cases.

Medical Jurisprudence.

Hospital—Gynæcology and Clinical Medicine.

Mental Diseases.

Eye Diseases.

(Final M.B. Examination.)

# IV. CURRICULUM FOR DEGREES OF THE ROYAL UNIVERSITY OF IRELAND.

Before entering on her studies a student must pass the Matriculation Examination prescribed by that University, and

subsequently the first University Examination in Arts. The
Course must then be arranged as follows:—
FIRST YEAR—
*(a) Natural Philosophy, six months.
(b) Systematic Chemistry,
(c) Biology {Botany, three months
(First Examination in Medicine two years after Matriculation.)
SECOND YEAR—
(a) Systematic Anatomy, six months.
(b) Practical Anatomy, ,,
(c) Systematic Physiology, ,,
(d) Practical Chemistry, three months.
(e) Materia Medica, ,,
Hospital—Winter Session.
(Second Examination in Medicine.)
THIRD YEAR—
(a) Senior Anatomy, six months.
(b) Practical Anatomy, ,,
(c) Advanced Systematic Physiology, ,,
(d) Practical Physiology and Histology.
(e) Any one or two of the following:—
(1) Medicine.
(2) Surgery.
(3) Midwifery and Diseases of Women and Children.
Hospital—Winter and Summer.
(Third Examination in Medicine.)
FOURTH YEAR—
(a) Whichever of following has not already been attended—
(1) Medicine.
(2) Surgery.
(3) Midwifery and Diseases of Women and Children, six months.
(b) Operative Surgery.
(c) Medical Jurisprudence with Hygiene.
(d) Pathology, three months.
(e) Mental Diseases, ,,

- (f) Ophthalmology and Otology.
- (g) Hospital, Winter and Summer Sessions.
- (h) Practical Midwifery, six months at Maternity Hospital and 20 cases.
- (i) Fever Hospital, three months, and personal charge of 10 cases.
- (k) Personal charge of six Gynæcological cases.
- (1) Personal charge of six cases Diseases of Children.
- (m) Practical Pharmacy, three months, unless taken in third year.
- (n) Vaccination.
- (o) Attendance on at least six post-mortem examinations.
- (p) Attendance for two months in a general hospital as Clinical Clerk, and two months as Dresser, and these not simultaneously.

#### APPENDIX.

PRELIMINARY EXAMINATION IN GENERAL EDUCATION, AND REGISTRATION OF MEDICAL STUDENTS BY THE GENERAL COUNCIL.

No person shall be allowed to be registered as a Medical Student in 1891 unless he or she shall have previously passed a Preliminary Examination in the subjects of General Education as specified in the following list:—

- (1.) English Language, including Grammar and Composition;
- (2.) Latin, including Grammar, Translation from specified authors, and Translation of easy passages not taken from such authors;
- (3.) Elements of Mathematics, comprising (a) Arithmetic, including Vulgar and Decimal Fractions; (b) Algebra, including Simple Equations; (c) Geometry, including the first book of Euclid, with easy questions on the subject-matter of the same;
- (4.) Elementary Mechanics of Solids and Fluids, comprising the Elements of Statics, Dynamics, and Hydrostatics;
- (5.) One of the following Optional Subjects:—(a) Greek; (b) French; (c) German; (d) Italian; (e) any other Modern Language; (f) Logic; (g) Botany; (h) Zoology; (i) Elementary Chemistry.

On 1st January, 1892, the following alterations in the Regulations will take effect:—

- (1.) Candidates must pass in the first three books of Euclid, or the subject matter thereof.
- (2.) Elementary Mechanics, Botany, Geology, and Elementary Chemistry cease to be subjects of the Preliminary Examinations.
- (3.) All the necessary subjects must be passed at one period.

The Preliminary Examination of the Faculty of Physicians and Surgeons of Glasgow entitles the Student to Registration.

A Senior or Junior Certificate of the Local Examinations of any of the Universities, or the London Matriculation (besides other examinations, for which see the regulations for the Triple qualification) will be accepted instead of the Preliminary Examination, in so far as it includes the subjects required; any of the necessary subjects not included in it must be taken at the Preliminary Examination.

In 1891 in the Preliminary Examination of the Scottish Licensing Bodies, every candidate for a full certificate must pass in all the four firstnamed subjects, and in one of the optional subjects, showing a competent knowledge in all five; excellence in one subject will not compensate for deficiency in another. Candidates who pass in some of the necessary subjects, but not in all, will receive certificates specifying the subjects in which they have passed, and will be re-examined only on those subjects in which they have not previously passed. The subjects may be passed at one or more examinations, but in the case of candidates who enter for or pass in any number of subjects less than the whole, a higher standard of proficiency will be required in each subject than in the case of those who enter for and pass the entire examination at one period. certificate of having passed the examination in full will entitle its possessor, on commencing professional study, to have her name enrolled as a medical student by the Registrar of the division of the kingdom in which she is residing. A certificate of having passed part of the examination will qualify pro tanto.

In 1892 every Candidate must pass at one period in all the three firstnamed subjects, with three books of Euclid, and in one of the first six optional subjects.

By the regulations of the General Medical Council any period of study taken more than fifteen days before registration cannot be recognised. The Registrar for Scotland is—Mr. James Robertson, Solicitor, 1 George Square, Edinburgh.

The fee for the Examination of the Faculty of Physicians and Surgeons of Glasgow is 10s. Sets of questions of previous Examinations can be had from the Secretary of the Faculty, price 6d.

Examinations are held in Glasgow in the Faculty Hall, 242 St. Vincent St., on 2nd July, 1st October, 1891, 24th March, 30th June, and 29th September, 1892. Secretary, Mr. Alexander Duncan, B.A.

In addition to the above-mentioned Preliminary Examination, Candidates for the Degree of Bachelor of Medicine and Master in Surgery of the University of Glasgow are required to undergo, previously to their First Professional Examination (and, it is recommended, as far as possible, previous to the commencement of professional study), an examination in Books II. and III. of Euclid, and in one of the following: Greek, French, German, Higher Mathematics, Natural Philosophy, Logic, Moral Philosophy.

Note.—The Degrees of the University of Glasgow are not now (1891) open to women; but it is hoped that among the changes to be made by the Universities Commission now sitting may be included the admission of women to University Examinations and Degrees.

A student who wishes to prepare for the Degrees of the University of London, or of Ireland, must pass the Matriculation Examination of the University she selects. The regulations for these Examinations may be had, for London, from the Registrar, University of London, Burlington Gardens, London, W.; Examination Fee, £2; dates of Examination, January and June; for the Royal University of Ireland at 25 Upper Merrion St., Dublin; Examination Fee, 10s.; date of Examination, October.

REGULATIONS FOR CANDIDATES FOR THE QUALIFICATIONS IN MEDICINE AND SURGERY CONFERRED CONJOINTLY BY THE ROYAL COLLEGE OF PHYSICIANS OF EDINBURGH, THE ROYAL COLLEGE OF SURGEONS OF EDINBURGH, AND THE FACULTY OF PHYSICIANS AND SURGEONS OF GLASGOW.

#### PROFESSIONAL EDUCATION.

1. Candidates must have been engaged in Professional Study during Forty-five months from the date of registration as Medical Students by the General Medical Council, which period shall include not less than Four Winter Sessions' attendance at one or more recognised Medical School or Schools.

Note.—The General Medical Council have resolved that for Students beginning study after 1st January, 1892, the period of professional study, between the date of Registration as a Medical Student and the date of Final Examination for any Diploma which entitles its bearer to be registered under the *Medical Acts*, must be a period of *bona fide* study during not less than five years.

2. The Candidate must produce certificates or other satisfactory evidence of having attended the following separate and distinct Courses of Instruction, at such Schools and under such Teachers as are recognised, the Certificates distinguishing the Sessions and the Schools in which they were severally attended:—

			Duration, at least
Anatomy,	-	1 Course,	Six months.
Practical Anatomy,	-		Twelve months.
Chemistry,		1 Course,	Six months.
Practical or Analytical Chemistry, -	2	1 Do.,	Three months.
Materia Medica,		1 Do.,	Three months.
Physiology,	-	1 Do.,	Six months.
Practice of Medicine,	-	1 Do.,	Six months.
Clinical Medicine,			Nine months.
Principles and Practice of Surgery, -	-	1 Do.,	Six months.
Clinical Surgery,			Nine months.
Midwifery and the Diseases of Women	and		
Children,			Three months.
Medical Jurisprudence,		1 Do.,	Three months.
Pathological Anatomy,	-	1 Do.,	Three months.

The six months' Courses delivered in Scotland, with the exception of Clinical Medicine and Clinical Surgery, must consist of not fewer than 100 Lectures. The three months' Courses must consist of not fewer than 50 Lectures. The number of Lectures certified as attended at any school not situated in Scotland should not be less than three-fourths of the total number of Lectures delivered in a Course.

The Candidates must also produce Certificates of (a) attendance on not less than six (for Glasgow University twelve) Midwifery cases (three months' attendance on the indoor practice of a Maternity Hospital, and attendance at twenty cases is recommended); (b) three months' instruction in Practical Pharmacy; (c) twenty-four months' attendance on the Medical and Surgical Practice of a Public General Hospital; (d) six months' attendance, after the Student has passed the First and Second Professional Examinations, on the practice of a specially-recognised Public Dispensary (or three months, with three months' hospital clerkship), or the out-patient practice of a recognised general Hospital; (e) six weeks' instruction in the Theory and Practice of Vaccination.

The following alterations will affect all Students who begin study after 31st December, 1891:—

- (1.) The Course of study will be extended to five years. (See Note, page 37.)
- (2.) The following subjects will be added to the course of study:— 1 Course, 3 months. Elementary Biology, - ) 1 Course, 6 months. or Botany, 1 Course, 3 months. 1 Course, 3 months. Zoology, -Mental Diseases, 1 Course, 3 months. Mental Diseases, - 1 Course, 3 months.
  Ophthalmic Surgery, 1 Course, 3 months.
  Infectious Diseases, - 3 months in Fever Hospital.

Candidates are advised to attend, in addition to the Courses of

Instruction which are absolutely required, Practical or Tutorial Clinical Instruction in Medicine, Surgery, and Gynæcology, and Lectures on Aural Diseases; and to obtain practical instruction in the Use of the Microscope, and its applications to Physiology and Medicine. It is also recommended that while the Student is engaged in Anatomical and Physiological studies, she should familiarise herself in the wards of the hospital with the subjects of "Fractures," "Dislocations," and the "Diseases of Bones and Joints"; and that the last year of the curriculum should be devoted as much as possible to clinical work and study.

## Professional Examinations for the Triple QUALIFICATION.

The First Professional Examination takes place not sooner than the end of the first year of study, and includes Chemistry, Elementary Anatomy, and Histology.

The Second Professional Examination takes place not sooner than the end of the second year of study, and includes Anatomy, Physiology, Materia Medica and Pharmacy. The Final Examination takes place not sooner than the end of the full period of study, and includes the Principles and Practice of Medicine (including Therapeutics, Medical Anatomy and Pathology); Clinical Medicine; the Principles and Practice of Surgery (including Surgical Anatomy and Surgical Pathology); Clinical Surgery; Midwifery and Gynæcology, Medical Jurisprudence and Hygiene.

For particulars of these Examinations and alterations affecting Students beginning study after 1891 see the Regulations of the Joint Examinations for the year (T. & A. Constable & Co., Edinburgh), which may be obtained from Mr. Alexander Duncan, B.A., Faculty Hall, 242 St. Vincent Street.

The following class, which will be required for the Triple Qualification for Students beginning work after 1st January, 1892, forms part of the Arts Curriculum of Queen Margaret College, and is held in the Winter Session:—

#### NATURAL PHILOSOPHY.

Professor Blyth, M.A., F.R.S.E., Glasgow and West of Scotland Technical College.

The class meets on Wednesdays and Fridays from 3 to 4, and on Saturdays from 10 to 1.

The Course will embrace—

I. LECTURES ON EXPERIMENTAL PHYSICS, on Wednesdays and Fridays from 3 to 4. The lectures will be as far as possible fully illustrated by experiment, and will include the subjects detailed in Nos. 3-10, following.

II. LECTURES ON THEORETICAL MECHANICS, on Saturdays from 10 to 11, including subjects detailed in Nos. 1, 2.

III. PRACTICAL PHYSICS, on Saturdays, from 11 to 1. Here the students will work practically in the Laboratory, and will be taught the construction and use of physical apparatus generally, and will also be required to employ the various instruments so as to verify natural laws and obtain numerical results.

The following will give an idea of the Lecture Course :-

- 1. ELEMENTARY KINEMATICS. Fundamental Units of Time and Space—Motion—Velocity—Composition and resolution of velocities—Acceleration—Uniformly accelerated motion.
- 2. ELEMENTARY DYNAMICS. Force—Composition and resolution of forces—Laws of motion—Momentum—Mass—Falling bodies—Attwood's machine—Forces producing equilibrium—Centre of inertia—Mechanical powers—Properties of fluids—Hydrostatics.
- 3. Properties of Matter. Gravitation—Newton's law—Distinction between solids, liquids, and gases—Elasticity—Law of

- fluid pressure—Specific gravity—Atmospheric pressure—Barometer—Boyle's law—The constitution of matter.
- 4. Sound. Distinction between noises and notes—Velocity of sound
  —Wave motion—Nodes and loops—Chladni's figures—Various
  ways of producing notes—Siren—Tuning forks—Organ pipes—
  Reed instruments—Reflection and refraction of sound—Interference of sound waves—Graphical method of showing vibration
  —Phonograph—Vowel sounds.
- 5. Heat. Distinction between heat and temperature—Dilatation produced by heat—Gay-Lussac's law—Thermometers—Change of state produced by heat—Latent heat—Specific heat—Thermodynamics—Mechanical equivalent of heat.
- 6. Light. Luminiferous ether—Velocity of light—Reflection and refraction of light—Lenses—Telescope—Microscope—Interference of light—Diffraction—Solar spectrum—Various spectra—Reversal of the spectrum lines.
- 7. Magnetic and diamagnetic substances—Loadstone
  —Magnetic poles—The Earth a magnet—Definition of magnetic
  moment and of intensity of magnetisation—Magnetic force and
  magnetic induction—Forms of magnets—Magnetic potential at
  a point—Terrestrial magnetism—Magnetic elements—Magnetic
  storms—Connection with Aurora and sun spots.
- 8. Static Electricity. Fundamental phenomena—Various methods of electrification—Positive and negative electricity—Induction—Potential—Quantity—Density—Capacity—Lines of force and equipotential surfaces—Distribution of electricity modified by form of surface—Leyden jar and other accumulators—Faraday's investigations—Electrostatic instruments—Friction and induction machines—Electroscopes and electrometers—Atmospheric electricity—Thunder and lightning—Lightning conductors.
- 9. Voltaic Electricity. Current Resistance Electromotive force—Ohm's law—Discoveries of Galvani and Volta—Various kinds of Voltaic cell—Batteries—Measurement of Electromotive force, of resistance, and of current—Wheatstone's bridge—Galvanometers—Heating effects of current—Joule's law—Peltier and Thomson effect—Electrolysis—Faraday's law—Electrometallurgy—Luminous effects of current—Electric light—Contact-electricity—Thermo-electricity.

10. Electro-Magnetism. Magnetic potential of a closed circuit—
Electro-magnets—Mutual action of currents—Induction of currents—Faraday's discovery—Mutual and self-induction—
Electro-Magnetic instruments—Induction coil—Vacuum tubes—Dynamo machines—Electric transmission of power—Wire telephone—Loose contacts—Action of light on resistance of selenium—Electric oscillations.

The Course is suitable for ladies studying for Medical Degrees and Qualifications, for the Degrees of London University, and the various Higher Local Examinations.

In addition to a cursory treatment of all the subjects mentioned, it is intended, during session 1891-92, to have the Lectures so arranged as to suit both 1st and 2nd Year Students, who will form the Junior and Senior divisions of the class.

The students are particularly recommended to keep the Saturdays free for Laboratory work.

Fee for the Course, £3 3s.

#### BOARD FOR STUDENTS.

Provision is not made in Queen Margaret College to receive resident Students; but the Council recommend houses in which ladies attending the College will be accommodated as Boarders.



